REMARKS/ARGUMENTS

Please cancel claims 12-26. Claims 8-11, and 27-36 remain in the application for further prosecution. Claim(s) 28 has been amended. Claims 1-7 and 12-26 have been canceled.

I. Claim Rejection – 35 U.S.C. § 112

Claim 28 was rejected under 35 U.S.C. § 112 as being dependent on withdrawn Claim 12. Claim 28 has been amended to depend from Claim 27, thereby overcoming the rejection. Applicants thank the Examiner for the careful examination of the claims.

II. Claim Rejection – 35 U.S.C. § 102

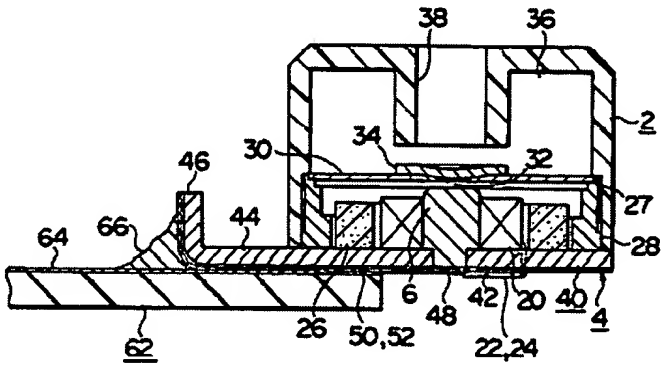
A. Sone Does Not Teach or Suggest The Claimed Electric Circuit Board

Claims 8-11, 27, and 29-36 were rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Patent No. 5,432,758 (Sone), a prior art reference not cited in any previous Office Action. The Office Action contends that "Sone teaches a coil assembly for an electroacoustic transducer which comprises a coil (20) and an electric circuit board (40, 42, 44, 48, 50, 52, figures 1, 2, 7, 8, 9)." Office Action at 2, ¶ 4. Applicants respectfully submit that the elements 40, 42, 44, 48, 50, and 52 do **not** form an electric circuit board, but rather, form a "magnetic circuit" as explicitly disclosed by Sone. Furthermore, Sone explicitly discloses that element 62 is a "printed board," and clearly *no portion* of the printed board 62 (*see* FIG. 5 of Sone) is positioned against a coil in a substantially perpendicular relationship to its axis as called for by independent claims 8 and 31.

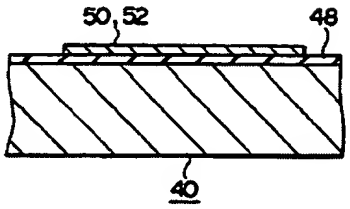
Sone *repeatedly* teaches that the metal base plate 40 forms a closed **magnetic circuit** not an electric circuit as called for by claims 8 and 31: "The metal base plate 40 is formed of a single metallic plate made of a magnetic material to constitute a part of a **magnetic circuit**." Col. 4, ll. 13-16. "That is, both the core 6 and the metal base plate 40 form a **closed magnetic circuit** to thereby constitute a part of a **magnetic path** of the magnetic driving portion 5." Col. 5, ll. 25-28. "The electroacoustic transducer has a diaphragm 30 which constitutes a **closed magnetic circuit** together with the magnet 26 and is driven by the vibrating magnetic field . . . ." Col. 5, ll. 40-43. "FIG. 4 shows a concrete embodiment of the metal base plate 40 which serves as a closing means for the opening of the housing 2 and also constitutes a part of the **closed**

magnetic circuit." Col. 6, ll. 5-8. "The core 6 is not mechanically connected to the base portion but integrated with the metal base plate 40 to form a **closed magnetic circuit** so as to constitute a part of the magnetic path of the magnetic driving portion 5." Col. 8, ll. 24-28. Nowhere does Sone teach or suggest that the metal base plate 40 is part of an electric circuit board, nor could it be since it is made of metal. Col. 6, ll. 8-10 ("Accordingly, the metal base plate 40 is made of a metallic plate so as to give a suitable rigidity thereto."). No electric circuit board could have a metal base plate because metal is conductive.

Sone does disclose a printed board 62, shown in FIG. 5 (reproduced below) and ignored by the Office Action, but clearly no portion of the printed board 62, assuming *arguendo* that it is an electric circuit board, is positioned against the core 20.



Rather, the printed board 62 is positioned against the metal base plate 40 as shown above and as described in Sone: "The closing portion 42 and the terminal portion 44 may be electrically connected and mechanically fixed by solder 66 to a conductive pattern 64 of a printed board 62, as illustrated in FIG. 5." Col. 6, ll. 24-27. *See also* col. 7, ll. 33-36 ("Compared with the embodiment as illustrated in FIG. 5, fixing strength **between** the metal base plate 40 and the printed board 62 is increased, thereby enhancing the reliability thereof."). In fact, as is illustrated in FIG. 4 (oriented upside-down relative to FIG. 5 and reproduced below), the conductive patterns 50, 52 are disposed on the underside of the metal base plate 40 separated by an insulating film 48:



Thus, Sone teaches that the "conductive patterns 50 and 52 are formed by a conductor forming methods [sic] such as printing or plating conductive paste, and may be used for mounting circuits or elements of the electroacoustic transducer for miniaturization and simplification of electronic devices." Col. 4, ll. 36-41. Although the Examiner cites this passage as alleged support for a teaching of electronics for signal processing (see claim 29), Applicants respectfully disagree. Because the conductive patterns 50, 52 are located on the underside of the metal base plate 40, they are used for mounting circuits or transducer elements to the printed board 62 and not to the metal base plate 40. As explained above, if the circuits or electric transducer elements were mounted to the metal base plate 40, they would not function because the plate is made of metal.

Therefore, for at least the foregoing reasons, claims 8 and 31 are believed to be allowable over Sone, and the Examiner is requested to issue a Notice of Allowance. Regarding the dependent claims 9-10, 27-30, 32-36, they are believed to be allowable for at least the reason that the respective claims from which they depend are allowable.

Regarding claims 9 and 32, they are believed to be allowable over Sone for at least the additional reason that Sone does not teach or suggest a **flexible** electric circuit board as claimed. The Office Action cites Col. 4, ll. 27-43, and Col. 6, ll. 11-19 & 65-67 as alleged support that the metal base plate 40 can be flexible. In fact, these passages nowhere state that the metal base plate 40 can be flexible. On the contrary, Sone teaches that "the metal base plate 40 is made of a metallic plate so as to give a suitable **rigidity** thereto." Col. 6, ll. 8-10. That the conductive patterns 50, 52 may be flexible is of no moment because the Office Action identifies the electric circuit board as including the metal base plate 40, which is clearly **rigid** not flexible. Accordingly, claims 9 and 32 are believed to be allowable over Sone for at least this additional reason.

Regarding claims 11 and 34, they are believed to be allowable over Sone for at least the additional reason that the metal base plate 40 is not the electric circuit board as claimed, and

therefore lacks the opening as claimed. Moreover, Sone does not teach or suggest that the printed board 62 includes any opening, let alone an opening that is substantially aligned with the coil opening. Accordingly, claims 11 and 34 are believed to be allowable over Sone for at least this additional reason.

Claim 29 is believed to be allowable for at least the reason discussed above in connection with claims 8 and 31.

Regarding claim 36, even assuming *arguendo* the printed board 62 is an electric circuit board, Sone does not teach electrically connecting the printed board 62 to the coil via coil lead wires. Sone actually teaches that the metal base plate 40 may be electrically connected and mechanically fixed by "**solder** 66 to a conductive pattern of a printed board 62, as illustrated in FIG. 5." Col. 6, ll. 25-27.

B. Lee Does Not Even Show A Circuit Board

Claims 8-9 and 31-32 were also rejected as being allegedly anticipated by U.S. Patent No. 5,861,686 (Lee), another reference not cited in any previous Office Action. The Office Action identifies the claimed electric circuit board as allegedly corresponding to element 3b of Lee, but overlooks the fact that Lee explicitly states that a printed circuit board (PCB) is not shown in the Figures. The second vibration member 3b is clearly not an electric circuit board as claimed. It is "not made of a thin metal plate bus is made of a synthetic resin film." Col. 4, ll. 7-9. Lee describes the purpose of the second vibration member 3b as follows:

> During a process of producing a cellular or pager phone, the integrated device of this invention is set in the phone using the tapes 30. In addition, the outer terminals 33b of the lead panel 23b of the second vibration member 3b are connected to the **PCB (not shown)** of the phone, Due to such a second vibration member 3b, the integrated device of this invention effectively connects the coil 8 to the PCB of the phone while being free from any separate circuit board.
>
> In the operation of the above device, a user freely select, one of the two modes: a vibration mode performed by the first vibration member 3a and a sound mode performed by the second vibration member 3b. When a user selects one of the two modes, the PCB of the cellular or pager phone outputs a high or low frequency to the coil 8 of the device in response to a calling signal output from a microprocessor of the phone. In this case, the output frequency is automatically controlled by the PCB in accordance with a selected mode of the device.

> Due to such a frequency applied from the PCB to the coil 8 of the device, an electromagnetic field is formed between the magnet 7 and the coil 8, thus moving both the yoke 6 and the coil 8 in the axial direction of the case 1 **while selectively vibrating either of the two vibration members 3a and 3b**.

Col. 5, ll. 13-28. Thus, the second vibration member 3b vibrates in response to a frequency applied by a printed circuit board *which is not even shown in Lee*. Accordingly, Lee does not even show an electric circuit board, let alone one as claimed in claims 8-9, 31-32. Therefore, they are believed to be allowable over Lee.

C. The "Coil Spring" Of Kuwabara Does Not Correspond to The Claimed Coil

Claim 8 was rejected under 35 U.S.C. § 102(a) as being allegedly anticipated by U.S. Patent No. 6,023,518 (Kuwabara), yet another reference not cited in any previous Office Action. The Office Action avoids any mention of the "coil 17" shown and described repeatedly throughout Kuwabara, but instead contends that the **coil spring** 22 (the Office Action refers to the coil spring 22 as a coil) corresponds to the claimed coil. This contention runs directly afoul of the explicit teachings of Kuwabara.

Kuwabara itself makes a clear distinction throughout the written description between the "coil 17" and the "coil spring 22." Col. 2, ll. 51-52 ("Thus, the coil 17 is connected to the coil springs 22."). Kuwabara also makes the same distinction in the claims (*see, e.g.,* Claim 1, "a coil" and "at least two coil springs"). If the coil spring 22 is a coil as the Office Action contends, then the distinction by Kuwabara between the coil spring 22 and the coil 17 is meaningless. Thus, Applicants respectfully submit that claim 8 is allowable of Kuwabara.

III. Claim Rejection – 35 U.S.C. § 103

Claims 9-10, 29, and 31-33 were rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Kuwabara. Regarding claims 9-10 and 29, they are believed to be allowable for at least the reason that claim 8, from which they depend, is allowable. Regarding independent claim 31, it is believed to be allowable for at least the same reasons that claim 8 is allowable over Kuwabara. Regarding claims 32-33, they are believed to be allowable for at least the reason that claim 31 is allowable.

Conclusion

It is the Applicants' belief that all of the claims are now in condition for allowance and action towards that effect is respectfully requested.

If there are any matters which may be resolved or clarified through a telephone interview, the Examiner is requested to contact the undersigned attorney at the number indicated.

No fees are believed to be due with this paper, however, the Commissioner is authorized to charge any additional fees which may be required (except the issue fee) to JENKENS & GILCHRIST, P.C., Deposit Account No. 10-0447 (47161-00031USPX).

Respectfully submitted,

Date: July 19, 2004

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